

Application No.: 10/058,047**Docket No.: 30011732-4 US (1509-256)****REMARKS**

Applicant notes the indication of claims 42-49 containing allowable subject matter.

The claims have been amended for clarity and to define applicant's contribution to the art with greater clarity.

Applicant traverses the anticipation rejection of claims 1-5, 7, 13-16, 18-20, 21, 24, 25, 33-39 and 41 as being anticipated by Zwern, U.S. Patent Publication 2001/0038378. A proper rejection under 35 U.S.C. 102(e) requires a single reference to disclose every claimed feature or, to inherently include such claimed features. Zwern does not meet the test.

The Office Action relies on the Zwern disclosure of computer 12, head mounted display 26, pointing device 16, head tracker 28 and view port 22 of Zwern to disclose the elements of the foregoing claims. However, none of these portions of Zwern is at all concerned with a user interface in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate, as defined by claim 1. In addition, none of these elements of Zwern relate to an audio user-interfacing method in which each of a plurality of items is represented in an audio field by plural synthesized sound sources from where sounds related to each item appear to emanate, as independent claim 20 requires. Further, the foregoing items in the Zwern disclosure do not relate to the requirements of independent claim 21 relating to providing an audio user interface in which each of a plurality of items is represented in an audio field by plural synthesized sound sources from where sounds related to the item appear to emanate. The relied upon elements of Zwern also are unrelated to the

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requirements of independent claim 35 for providing an audio user interface in which each of a plurality of items is represented in an audio field by plural synthesized sound sources from where sounds related to the item appear to emanate. Zwern is also unrelated to the similar requirements of independent claims 36-39. Hence, based on the foregoing, Zwern does not anticipate any of applicant's independent claims.

The Office Action alleges that view port 22 of Zwern has a cursor which visually indicates the orientation of an audio field reference relative to a pre-determined indicator reference. However, Zwern has no disclosure of view port 22 having a cursor for visually indicating the orientation of an audio field reference relative to a predetermined indicator reference. If the Examiner is relying on inherency for this feature, he has failed to meet the burden associated with proving inherency.

The fact that a certain result or characteristic *may* occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1532, 28 U.S.P.Q.2d 1955, 1956 (Fed. Cir. 1993); *In re Oelrich*, 666 F.2d 578, 581-82, 212 U.S.P.Q. 323, 326 (C.C.P.A. 1981). To establish inherency, extrinsic evidence must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference and that it would be so recognized by persons of ordinary skill in the art. Inherency may not be established by possibilities or probabilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Roberston*, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999). In relying upon a theory of inherency, the Examiner must provide a basis in fact or technical reasoning to reasonably support the determination that the allegedly inherent

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characteristic necessarily flows from the teachings of the prior art. *Ex parte Levy*, 17 U.S.P.Q.2d 1461, 1464 (B.P.A.I. 1990).

In fact, paragraph 0088, column 9, of Zwern indicates that spatialized audio generator 58 is used to audibly alert a user to computer generated events occurring outside view port 22. The implication is that any sounds generated by synthesizer 58 have nothing to do with visually indicating the orientation of an audio field reference relative to a predetermined indicator reference. Applicant also notes that there is no relationship shown in the Zwern patent between the output of audio synthesizer 58 and any structure of Zwern that generates view port 22.

Independent claims 20, 21 and 35-39 require plural synthesized sound sources and other limitations related to such plural synthesizer sound sources. There is no disclosure in Zwern of such plural synthesizer sound sources from where sounds related to each of plural items appear to emanate.

Dependent claims 2-5, 7, 13-16, 18, 19, 24, 25, 33, 34 and 41 are allowable for the same reasons advanced for the claims on which they depend. In addition, many of these claims include limitations that do not appear to be disclosed by Zwern. For example, claim 2 requires the determining and visually indicating step of claim 1 to be determined from components of offset and an indicator-reference orientation without an intermediate determination of the offset and indicator-reference direction. Claim 4 indicates that the offset comprises a component that is varied to stabilize an audio field relative to one of a user's head, a user's body, a vehicle in which the user is traveling and the world. Since there is no disclosure of any offset in Zwern, these limitations must be proven by the Examiner to be inherent in Zwern. No such proof has been set forth. Claim 7 requires a

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display screen to display an indication of the orientation of the audio field reference relative to an indicator reference. View port 22 of Zwern can not meet this limitation for the reasons discussed supra in connection with claim 1 and the disclosure in paragraph 0088 of the reference.

Claim 14 indicates the predetermined indicator reference of claim 1 is one of: current facing direction, straight-ahead facing direction, or a direction fixed relative to the world. Claims 15 and 16 include similar limitations. Since Zwern fails to discuss any of these limitations, the Examiner must prove that they are inherent in Zwern. The Examiner has failed to offer any such proof.

Claim 17 requires the offset changes of claim 12 to include user-commanded changes. In Zwern, the only changes to synthesized source 58 are in response to head movement.

Applicant traverses the rejection of claims 6, 8-12, 22, 23, 26-32 and 40 as being obvious as a result of Zwern in view of Anderson, USP 6,906,700. Anderson is relied on in the Office Action to disclose the use of trackballs in virtual reality computer based devices. The Examiner's statement that it would have been obvious to have modified Zwern to include a trackball, as disclosed by Anderson, is wrong. The Examiner must explain how the Zwern device would have been modified by one of ordinary skill in the art to have included a trackball. The Examiner states that a trackball would increase the versatility of environmental navigation in the Zwern device. Because the Examiner has failed explain how a trackball would have achieved this result and how the Zwern device would have been modified to include a trackball for this purpose, the examiner has not established a prima facie case of obviousness.

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The Examiner also has taken official notice that pointing devices with indicators of where the device is being directed were well known at the time of the invention. While such a statement might be true, the Examiner's conclusion that one of ordinary skill in the art would have known their benefits with regard to virtual reality and that it would have been obvious to have modified Zwern to include such devices is without foundation.

Many of claims 6, 8-12, 22, 23, 26-32 and 40 include limitations not discussed in the Office Action. For example, claim 6 requires energizing a selected indicator element of a set of such elements depending on the orientation of the audio field reference relative to the indicator reference. Claim 8 requires indicating the orientation of the audio field reference relative to the indicator reference via a visual orientation indicator arrangement that is incorporated into the input device. Claim 10 requires the visual orientation indicator arrangement to be a set of selectively energizable indicator elements. Claim 26 requires a visual orientation indicator arrangement to include a set of selectively energizable indicator elements that are energized by the processor arrangement or the visual orientation indicator arrangement so a selected one of the indicator elements is energized depending on the determined orientation of the audio field reference relative to the indicator reference. Claim 27 includes limitations similar to claim 26 but indicates that a display screen provides the indication of the determined orientation of the audio field reference. Claim 28 requires the visual orientation indicator to be in the input device. Claim 30 also requires a set of selectively energizable indicator elements. Hence the foregoing claims are improperly rejected.

Applicant traverses the rejection of claims 1, 4, 20 and 35 as being obvious as a result of Jacknin et al., USP 5,854,843 in view of Foxlin, U.S. Patent Publication

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2004/0024675. The Office Action alleges Jacknin et al. discloses varying an offset between an audio field reference relative to which sound sources are located in an audio field and a presentation reference determined by a mounting configuration of audio output devices through which the sound sources are synthesized. In fact, Jacknin et al. has no disclosure of the foregoing. The Examiner must provide proof that Jacknin et al. has the foregoing features inherently because Jacknin et al. certainly does not ever mention any of them.

The proposed combination of Jacknin et al. and Foxlin is also without merit. The Examiner relies on Foxlin to disclose determining and visually indicating the orientation of an audio field reference relative to a predetermined indicator reference. The only audio field that concerns Foxlin is the audio field that is used for position tracking by wireless ultrasonic tracker 12 that is worn on the head of the user and is responsive to hand mounted three dimensional beacon 14. Such tracking is completely unrelated to audio synthesis, as performed by Jacknin et al. Consequently, one of ordinary skill in the art would not have modified Jacknin et al. to include the Foxlin tracking arrangement to augment the Jacknin et al. synthesizer. The combination of these references is clearly a result of hindsight.

Independent claims 20 and 35 also distinguish over the proposed combination of Jacknin et al. and Foxlin by requiring varying an offset between audio-field reference relative to which plural sound sources are located in an audio field. Neither reference discloses such plural sound sources.

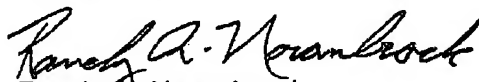
In view of the foregoing amendments and remarks, allowance is in order.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 08-2025 and please credit any excess fees to such deposit account.

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